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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/805,993	03/22/2004	Bruce Schofield	16410BAUS01U	1210
34645 7590 10/16/2009 Anderson Gorecki & Manaras, LLP Attn: John C. Gorecki P.O BOX 553 CARLISLE, MA 01741			EXAMINER PAULS, JOHN A	
			ART UNIT 3686	PAPER NUMBER
			NOTIFICATION DATE 10/16/2009	DELIVERY MODE ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary

Application No.

10/805,993

Applicant(s)

SCHOFIELD ET AL.

Examiner

JOHN A. PAULS

Art Unit

3686

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 August 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 37-52 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 37-52 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-8508)
- Paper No(s)/Mail Date _____

- 4) ☐ Interview Summary (PTO-413)
- Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Status of Claims

1. This action is in reply to the communication filed on 21 August, 2009.
2. Claims 1 – 36 have been cancelled.
3. Claims 37 – 52 have been added.
4. Claims 37 - 52 are currently pending and have been examined.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

7. Claims 37 - 42 and 45 - 50 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rothschild et al. (US PGPUB 2002/0016718 A1) and in further view of Primak et al. (US 6,389,448 B1) and in further view of Martin (US 6,263,368 B1).

CLAIMS 37 and 45

Rothschild as shown discloses a medical image management system with the following limitations:

- *a network element coupled to a network and configured to send and receive data via the network; (see at least Rothschild paragraph 0039, 0043, 0136, 0142 and Figure 1);*
- *receiving, by the network service, medical image data having embedded therein instructions associated with a task to be performed by at least one of the image archive resources in connection with the medical image data; (see at least Rothschild paragraph 0036, 0046, 0143 and 0144);*
- *transferring, by the network service, the medical image data to the selected one of the plurality of image archive resources; (see at least Rothschild paragraph 0039, 0143 and 0144).*

Rothschild as shown discloses the limitations shown above. Rothschild may or may not specifically disclose that the medical image has “*embedded therein instructions associated with a task to be performed by at least one of the image archive resources in connection with the medical image data*”. However, Rothschild does disclose that the medical image is stored and transmitted in DICOM format. It is old and well know in the medical imaging arts that the DICOM format includes instructions for tasks to be performed relative to the medical image. Therefore, the medical image management system of Rothschild anticipates that instructions associated with a task to be performed in connection with the medical image data are included in the DICOM format.

Rothschild as shown discloses the limitations shown above. Rothschild may or may not specifically disclose the following limitations, however, Primak does:

- *a network service coupled to the network element; (see at least Primak column 3 line 49 – 52 and column 4 line 30 - 37);*
- *monitoring, by a network service, a parameter associated with each of the plurality of image archive resources indicative of the available capacity of each of the plurality of image archive resources; (see at least Primak column 4 line 7 – 19 and line 30 – 37 and Figure 2b);*
- *selecting, by the network service, one of the plurality of image archive resources to be used to perform the task in connection with the medical image data using, as a selection function, the available capacity of each of the plurality of image archive; (see at least Primak column 4 line 38 to column 5 line 22).*

Primak discloses a load balancing system which includes monitoring a parameter indicative of available capacity. Therefore, it would have been obvious to one of ordinary skill in the art, at the time of the invention, to have modified the medical image management system of Rothschild so as to have included monitoring a parameter indicative of available capacity, in accordance with the teaching of Primak, in order to dynamically distribute the load between servers in a server cluster, since so doing could be performed readily and easily by any person of ordinary skill in the art, with neither undue experimentation, nor risk of unexpected results.

The combination of Rothschild/Primak as shown discloses the limitations shown above.

Rothschild/Primak may or may not specifically disclose the following limitations, however,

Martin does:

- *determining, by the network service, a level of complexity of the task to be performed from the instructions associated with the task;* (see at least Martin column 1 line 41 – 44; column 3 line 42 – 48; column 4 line 3 – 5; column 8 line 14 - 17);
- *selecting, by the network service, one of the plurality of image archive resources to be used to perform the task in connection with the medical image data using, as a selection function, the level of complexity of the task to be performed;* (see at least Martin column 1 line 41 – 44; column 3 line 30 – 48; column 4 line 3 – 5; column 8 line 38 - 43).

Martin discloses a load balancing system which includes determining the complexity of the task to be performed. Therefore, it would have been obvious to one of ordinary skill in the art, at the time of the invention, to have modified the medical image management system of

Rothschild/Primak so as to have included determining the complexity of the task to be performed, in accordance with the teaching of Martin, in order to dynamically distribute the load between servers in a server cluster based on task complexity, since so doing could be performed readily and easily by any person of ordinary skill in the art, with neither undue experimentation, nor risk of unexpected results.

Examiner notes that Martin discloses that complexity is based on a number of criteria including: network loading, processor loading and packet or byte counts for example. These criteria are the same as, or are directly related to "complexity" as disclosed in the specification of the present application in paragraph 0022.

The combination of Rothschild/Primak/martin as shown discloses the limitations shown above.

Rothschild/Primak/Martin may or may not specifically disclose the following limitations:

- *extracting, by the network service, the instructions associated with the task from the medical image data.*

However, Rothschild does disclose that the medical image is stored and transmitted in DICOM format. It is old and well know in the medical imaging arts that the DICOM format includes instructions for tasks to be performed relative to the medical image. Therefore, it would have been obvious to one of ordinary skill in the art, at the time of the invention, to have modified the medical image management system of Rothschild/Primak/Martin so as to have included extracting a task from the medical image data file transmitted in the DICOM format, in order to retrieve the Service Classes embedded in the DICOM message, since so doing could be performed readily and easily by any person of ordinary skill in the art, with neither undue experimentation, nor risk of unexpected results.

CLAIMS 39 and 47

The combination of Rothschild/Primak/Martin as shown discloses the limitations shown above with respect to Claims 37 and 45 respectively. Rothschild also discloses the following limitations:

- *the medical image data is formatted as a DICOM message; (see at least Rothschild paragraph 0040 and 0041);*

CLAIMS 41, 42, 49 and 50

The combination of Rothschild/Primak/Martin as shown discloses the limitations shown above with respect to Claims 37 and 45 respectively. Additionally, Primak discloses the following limitations:

- *selecting the one of the resources having the greatest available capacity relative to the complexity level of the task to be performed;* (see at least Martin column 1 line 41 – 44; column 3 line 30 – 48; column 4 line 3 – 5; column 8 line 38 – 43).
- *the parameter is one of the group consisting of the PACS server load or the PACS storage time;* (see at least Primak column 4 line 12 – 19);
- *the parameter is one of the group consisting of the resource load, the capacity of the network, or the congestion of the network;* (see at least Primak column 4 line 12 – 19).

Primak discloses a load balancing system which includes monitoring a parameter indicative of available capacity. Therefore, it would have been obvious to one of ordinary skill in the art, at the time of the invention, to have modified the medical image management system of Rothschild so as to have included monitoring a parameter indicative of available capacity, in accordance with the teaching of Primak, in order to dynamically distribute the load between servers in a server cluster, since so doing could be performed readily and easily by any person of ordinary skill in the art, with neither undue experimentation, nor risk of unexpected results.

CLAIMS 38 and 46

The combination of Rothschild/Primak/Martin as shown discloses the limitations shown above with respect to Claims 37 and 45 respectively. Additionally, Martin discloses the following limitations:

- *selecting the one of the resources having the greatest available capacity relative to the complexity level of the task to be performed;* (see at least Martin column 1 line 41 – 44; column 3 line 30 – 48; column 4 line 3 – 5; column 8 line 38 - 43).

Martin discloses a load balancing system which includes determining the complexity of the task to be performed. Therefore, it would have been obvious to one of ordinary skill in the art, at the time of the invention, to have modified the medical image management system of Rothschild/Primak so as to have included determining the complexity of the task to be performed, in accordance with the teaching of Martin, in order to dynamically distribute the load between servers in a server cluster based on task complexity, since so doing could be performed readily and easily by any person of ordinary skill in the art, with neither undue experimentation, nor risk of unexpected results.

Examiner notes that Martin discloses that complexity is based on a number of criteria including: network loading, processor loading and packet or byte counts for example. These criteria are the same as, or are directly related to "complexity as disclosed in the specification of the present application in paragraph 0022.

CLAIMS 40 and 48

The combination of Rothschild/Primak/Martin as shown discloses the limitations shown above with respect to Claims 37 and 45 respectively. The combination of Rothschild/Primak/Martin may or may not specifically disclose the following limitations:

- *the plurality of image archive resources comprises a plurality of Picture Archive System (PACS).*

However, Rothschild discloses a medical image management system that contains all of the features of a PACS. Therefore it would be obvious to one of ordinary skill in the art to modify Rothschild to include the term PACS, since so doing could be performed readily and easily by any person of ordinary skill in the art, with neither undue experimentation, nor risk of unexpected results.

8. Claims 43, 44, 51 and 52 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rothschild et al. (US PGPUB 2002/0016718 A1) and in further view of Primak et al. (US 6,389,448 B1) and in further view of Martin (US 6,263,368 B1). and in further view of Carr (US 6,301,617 B1) and in further view of Liu et al. (US 5,031,089).

CLAIMS 43 and 51

The combination of Rothschild/Primak/Martin as shown discloses the limitations shown above with respect to Claims 37 and 45 respectively. The combination of Rothschild/Primak/Martin may or may not specifically disclose the following limitations

- *selecting, by the network service one of the plurality of resources to transfer the task to be executed thereby, the selection based on the priority level of the resource; (see at least Carr column 4 line 5 – 7).*

Carr discloses a resources selection system which includes extracting a task from the data file and assigning a priority level to resources. Therefore, it would have been obvious to one of ordinary skill in the art, at the time of the invention, to have modified the medical image management system of Rothschild/Primak/Martin so as to have included selecting a resource based on priority level of the resource, in accordance with the teaching of Carr, in order to dynamically distribute the load between servers in a server cluster based on server priority, since so doing could be performed readily and easily by any person of ordinary skill in the art, with neither undue experimentation, nor risk of unexpected results.

The combination of Rothschild/Primak/Martin as shown discloses the limitations shown above with respect to Claims 37 and 45 respectively. Rothschild may or may not specifically disclose the following limitations, however, Liu does:

- *selecting, by the network service one of the plurality of resources to transfer the task to be executed thereby, the selection based on the priority level of the task; (see at least Liu column 1 line 60 – 66 and Claim 4).*

Liu discloses a resources allocation system which includes assigning a priority level to a task. Therefore, it would have been obvious to one of ordinary skill in the art, at the time of the invention, to have modified the medical image management system of Rothschild/Primak/Martin so as to have included assigning a priority level to a task, in accordance with the teaching of Liu, in order to dynamically distribute the load between servers in a server cluster based on task priority, since so doing could be performed readily and easily by any person of ordinary skill in the art, with neither undue experimentation, nor risk of unexpected results.

CLAIMS 44 and 52

The combination of Rothschild/Primak/Martin/Carr/Liu as shown discloses the limitations shown above with respect to Claims 43 and 51 respectively. Additionally, Carr discloses the following limitations:

- *selecting the one of the plurality of resources having a priority less than or equal to the priority level of the task; (see at least Carr column 4 line 5 – 7).*

Carr discloses a resources selection system which includes extracting a task from the data file and assigning a priority level to resources. Therefore, it would have been obvious to one of ordinary skill in the art, at the time of the invention, to have modified the medical image management system of Rothschild/Primak/Martin/Liu so as to have included extracting a task from the data file and assigning a priority level to resources, in accordance with the teaching of Carr, in order to dynamically distribute the load between servers in a server cluster based on server priority, since so doing could be performed readily and easily by any person of ordinary skill in the art, with neither undue experimentation, nor risk of unexpected results.

The combination of Rothschild/Primak/Martin/Carr does not specifically disclose *the priority level of the task*; however, Liu in at least Liu column 1 line 60 – 66 and Claim 4 does.

Liu discloses a resources allocation system which includes assigning a priority level to a task. Therefore, it would have been obvious to one of ordinary skill in the art, at the time of the invention, to have modified the medical image management system of Rothschild/Primak/Martin/Carr so as to have included assigning a priority level to a task, in accordance with the teaching of Liu, in order to dynamically distribute the load between servers in a server cluster based on task priority, since so doing could be performed readily and easily by

any person of ordinary skill in the art, with neither undue experimentation, nor risk of unexpected results.

Response to Arguments

Applicant's arguments filed 21 August, 2009 have been fully considered but they are not persuasive.

Applicant argues that Rothschild does not teach load balancing based on complexity and available capacity and that Carr does not teach looking within a medical file to determine a processing task and is not assessing the complexity of the task. In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

Applicant argues that Primal does not teach a network service, the complexity of a task or the processing of medical images. Examiner respectfully disagrees. Primak in at least column 4 line 30 – 37 and Figure 2b shows a coordinating device that performs the network service function. Primak also discloses monitoring CPU capacity, CPU load, number of tasks being performed and the number of connections; which has the same meaning as complexity in the specification of the present application as shown in paragraph 0022 (amount of resources). In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

Applicant argues that Marin does not teach load balancing based on the complexity of the task. Examiner respectfully disagrees. Martin discloses that complexity is based on a number of criteria including: network loading, processor loading and packet or byte counts for example. These criteria are the same as, or are directly related to "complexity" as disclosed in the specification of the present application in paragraph 0022. (amount of resources).

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Any inquiry of a general nature or relating to the status of this application or concerning this communication or earlier communications from the Examiner should be directed to **John A. Pauls** whose telephone number is **(571) 270-5557**. The Examiner can normally be reached on Monday to Friday 7:30 to 5:00 4/5/9. If attempts to reach the examiner by telephone are unsuccessful, the Examiner's supervisor, **Jerry O'Connor** can be reached at **571.272.6787**. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://portal.uspto.gov/external/portal/pair> . Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at **866.217.9197** (toll-free).

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/J. A. P./

Examiner, Art Unit 3686

Date: 2 October, 2009

/Gerald J. O'Connor/

Supervisory Patent Examiner

Group Art Unit 3686